Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.(original) A process for improving the integrity of a layer of silicon oxide having an upper surface, comprising:

on a substrate, providing said layer of silicon oxide;

by means of decoupled plasma nitridation, forming a nitrogen bearing layer that extends downwards a distance from said upper surface; and

then annealing said nitrogen bearing layer in a mixture of nitrogen and oxygen, at a temperature between about 1,000 and 1,100 °C and a pressure between about 5 and 15 torr, for between about 60 and 150 minutes, whereby said nitrogen bearing layer becomes substantially free of structural defects.

2.(currently amended) The process described in claim 1 wherein the step of decoupled plasma nitridation further comprises using between about ~~and~~ 250 and 350 watts of RF power at a pressure of 1-3 x 10^{-2} torr for 10-300 seconds.

3.(original) The process described in claim 1 wherein said nitrogen bearing layer is selected from the group consisting of silicon nitride and silicon oxynitride.

4.(original) The process described in claim 1 wherein said nitrogen bearing layer contains at least 3 atomic percent nitrogen.

5.(currently amended) The process described in claim 1 wherein said mixture of nitrogen and oxygen in the step of annealing said nitrogen bearing layer contains between about 10 and 30 volume percent oxygen.

6.(original) The process described in claim 1 wherein said distance that said nitrogen bearing layer extends downwards from said upper surface is between about 2 and 10 Angstroms.

7.(original) The process described in claim 1 wherein said layer of silicon oxide has a thickness between about 8 and 30 Angstroms.

8.(original) A process for forming a field effect transistor, comprising:

providing a silicon wafer, of a first conductivity type, and forming thereon a layer of silicon oxide having an upper surface;

by means of decoupled plasma nitridation, forming a nitrogen bearing layer that extends downwards a distance from said upper surface;

then annealing said nitrogen bearing layer in a mixture of nitrogen and oxygen, at a temperature between about 1,000 and 1,100 °C and a pressure between about 5 and 15 torr, for between about 60 and 150 minutes, whereby said nitrogen bearing layer becomes substantially free of structural defects;

depositing a layer of polysilicon on said layer of silicon oxide;

patterning and etching said layer of polysilicon and said layer of silicon oxide to form a gate pedestal on a layer of gate oxide; and

using said gate pedestal as a mask, forming source and drain regions of a second conductivity type that immediately abut said gate oxide, thereby forming said field effect transistor and whereby said field effect transistor has an electrical performance as good as a device that is similar in all respects to said field effect transistor except for the absence of said nitrogen bearing layer.

9.(original) The process described in claim 8 wherein said gate pedestal has a width between about 0.05 and 0.25 microns.

10.(currently amended) The process described in claim 8 wherein the step of decoupled plasma nitridation further comprises using between about ~~and~~ 250 and 350 watts of RF power at a pressure of 1-3 x 10^{-2} torr for 10-300 seconds.

11.(original) The process described in claim 8 wherein said nitrogen bearing layer is selected from the group consisting of silicon nitride and silicon oxynitride.

12.(original) The process described in claim 8 wherein said nitrogen bearing layer contains at least 3 atomic percent nitrogen.

13.(currently amended) The process described in claim 8 wherein said mixture of nitrogen and oxygen in the step of annealing said nitrogen bearing layer contains between about 10 and 30 volume percent oxygen.

14.(original) The process described in claim 8 wherein said distance that said nitrogen bearing layer extends downwards from said upper surface is between about 2 and 10 Angstroms.

15.(original) The process described in claim 8 wherein said layer of silicon oxide has a thickness between about 8 and 30 Angstroms.